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EFFECTS OF HIGH-PROBABILITY REQUESTS ON THE LATENCY TO INITIATE ACADEMIC TASKS

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The purpose of this study was to evaluate the effectiveness of a high-probability request sequence on the latency to and duration of compliance to a request for completion of an independent math assignment. The participant was an elementary-school student with learning disabilities who exhibited noncompliance during math instruction. The results showed that high-probability requests were effective in reducing the latency to compliance but only minimally affected duration of engagement.

DESCRIPTORS: high-probability request sequence, behavioral momentum, compliance, academic instruction

The refusal to initiate or complete a requested task within a specified period of time is a commonly reported characteristic among children with academic and behavior problems. One strategy that has been used for treating task noncompliance is the high-probability (high-*p*) request sequence (Mace et al., 1988). Briefly, this technique involves preceding a request, to which a student has a history of noncompliance (low-probability or low-*p* requests), with a series of requests with which a student has a history of compliance (high-*p* requests). The purpose of this study was to evaluate the effectiveness of a high-*p* request sequence with an elementary-school student on the latency to and duration of compliance following a request for completion of math assignments.

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METHOD

Participant and Setting. The participant was Meg, a 13-year-old girl functioning in the normal range of intellect (Standford-Binet full scale = 92) who had been identified by the local school district as learning disabled in math and written language. The authors and Meg's teacher generated a list of potential high-*p* requests that were topically related to math assignments and that were confirmed through direct observation as highly probable to result in immediate compliance (at least 85% of total observed instances).

Data collection. Data were collected during math class for (a) occurrence of the low-*p* requests, high-*p* requests, and praise by the teacher; (b) latency to the onset of engagement after the low-*p* requests; (c) compliance to the high-*p* request; and (d) termination of engagement to the low-*p* request (discontinuation of engagement for 10 consecutive s). Data were collected during daily 20-min sessions using the MOOSES software program on a laptop computer (Tapp, Wehby, & Ellis, 1995). These sessions were conducted Monday through Friday for a to-

tal of 30 sessions. During 33% of the sessions, a second observer recorded data that were compared with the data collected by the primary observer. Agreements were calculated using a 3-s window around each behavior coded by the primary observer. If a match was found in the secondary observer's file (within the 3-s window), an agreement was scored. Agreements and disagreements were used to calculate a percentage agreement score by dividing the number of agreements by the number of agreements plus disagreements and multiplying by 100%. Across all dependent measures, the average interobserver agreement score was 99% (range, 95% to 100%). Also, integrity measures were collected on the teacher's adherence to the research protocol. These measures indicated that the teacher issued 95% of the high-*p*, low-*p*, or neutral social comments according to the procedures. Finally, observational data indicated that Meg complied with 96% of the high-*p* requests.

Experimental design and conditions. An ABABACB design (A = low-*p* requests only, B = high-*p* sequence, and C = neutral social comments) was used. During the low-*p* condition, the teacher introduced the activity and worked four to ten problems on the board with the entire class. The classroom teacher then walked to within approximately 0.3 m of Meg's chair and presented a low-*p* request for Meg to begin her independent work. If Meg initiated engagement with the low-*p* request within 10 s, the classroom teacher verbally praised her and walked away. If Meg did not initiate engagement to the low-*p* request within the 10 s, the teacher walked away. During the high-*p* condition, the setting and general academic context remained the same. As in the low-*p* condition, the teacher walked to within 0.3 m of Meg and delivered three high-*p* requests randomly selected from a list (e.g. "Put your name on your paper," "Take out your pencil," "Get out a sheet of paper," "Read the first problem," "Copy the first problem on your paper"). If Meg complied with a high-*p* request within 10 s, praise was given and the next high-*p* request was presented. In the event that a high-*p* request did not yield compliance, the teacher continued giving alternate high-*p* requests, taken from the list, until Meg complied with three consecutive high-*p* requests. At this time, the teacher delivered the low-*p* request (e.g., "begin independent seat work"). All requests were given within 10 s of the student's compliance to the previous request. After providing three successful high-*p* requests followed by the low-*p* request for independent work, the teacher walked away.

Neutral social comments. Three neutral comments (e.g., "It is hot today") were given to the teacher on an index card prior to starting math instruction. The teacher delivered the social comments in the same manner used for high-*p* requests. The teacher then presented the low-*p* request. The time between comments was yoked to the mean interrequest time of the high-*p* requests in the first high-*p* condition (range, 8 s to 13 s).

RESULTS AND DISCUSSION

The upper panel of Figure 1 depicts the latency to compliance after receiving the low-*p* request by the teacher. During the initial low-*p* condition, the latency was high and variable, with a mean of 677 s (range, 271 s to 1,037 s). During the high-*p* request condition, the latency decreased to a mean of 21 s (range, 1 s to 55 s). Similar results were obtained throughout the analysis. Also, the neutral comment phase produced long latencies to compliance, with a mean of 1,111 s (range, 1,100 s to 1,129 s).

The lower panel of Figure 1 depicts overall engagement during the first 10 min of independent math work. During the first low-*p* condition, the mean percentage of

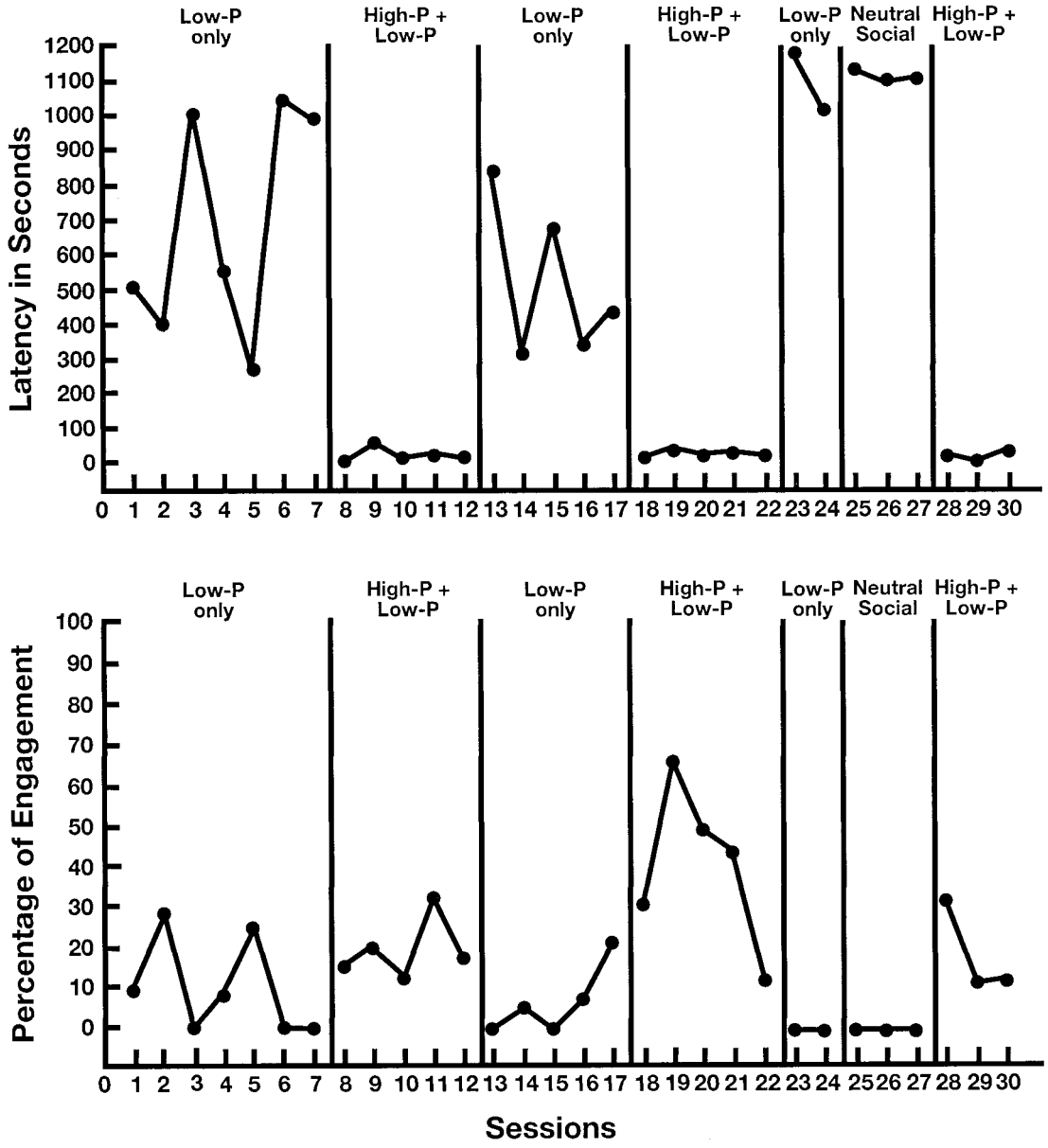

Figure 1. Latency to engagement following low-*p* requests (upper panel) and percentage of engagement in first 10 min after low-*p* requests (lower panel).

time Meg worked on the low-*p* activity was 10% (range, 0% to 28%). During the first high-*p* phase, engagement slightly increased to a mean of 19% (range, 13% to 32%). During the second low-*p* condition, engagement decreased again to a mean of 7% (range, 0% to 21%). During the second high-*p* phase there was a marked increase in engagement (40%), although it was quite variable (range, 12% to 60%). During the return to low-*p* condition and during the neutral comments condition, Meg was never engaged during the first 10 min. During the last high-*p* phase, engagement increased to a mean of 20% (range, 12% to 32%).

This study differed from previous research

on the high-*p* request sequence by identifying a student with a mild learning disability as the participant and choosing compliance to a math task as the focus of the investigation. The procedure reduced the latency to compliance following a teacher request for independent seatwork during an instructional math setting. These findings are consistent with previous applications of high-*p* requests to treat noncompliance (e.g., Davis, Brady, Williams, & Hamilton, 1992). However, effects on the duration of engagement were less clear.

Prior studies on the high-*p* sequences have evaluated latency to comply and the percentage of trials with compliance. We evaluated an additional measure, percentage of time with engagement, which was less sensitive to the intervention. A closer examination of the data showed that increases in the percentage of engagement occurred during the first 3 min following the delivery of the high-*p* request sequence. Future research could evaluate methods to increase engagement time by enhancing the reinforcer quality during the high-*p* instructional sequence (Mace, Mauro, Boyajian, & Eckert, 1997) or by varying high-*p* requests (Ardoin, Martens, & Wolfe, 1999).

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